

GenCore version 4.5  
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OM protein - protein search, using sw model

Run on: October 1, 2001, 19:02:48 ; Search time 97.54 Seconds  
(without alignments)  
576.779 Million cell updates/sec

Title: US-09-446-677B-2

Perfect score: 4782

Sequence: 1 MKTSPWLVSSVLAFLSCHL.....MELRGSSRNVDVGTKLRF 928

Scoring table: BLOSUM62

Gapop 10.0 , Gapext 0.5

Searched: 412676 seqs, 60623988 residues

Total number of hits satisfying chosen parameters: 412676

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Listing first 45 summaries

Database :

A\_Geneseq\_0601.\*  
1: /SIDSL/gcgdata/geneseq/geneseq/AA1980.DAT.\*  
2: /SIDSL/gcgdata/geneseq/geneseq/AA1981.DAT.\*  
3: /SIDSL/gcgdata/geneseq/geneseq/AA1982.DAT.\*  
4: /SIDSL/gcgdata/geneseq/geneseq/AA1983.DAT.\*  
5: /SIDSL/gcgdata/geneseq/geneseq/AA1984.DAT.\*  
6: /SIDSL/gcgdata/geneseq/geneseq/AA1985.DAT.\*  
7: /SIDSL/gcgdata/geneseq/geneseq/AA1986.DAT.\*  
8: /SIDSL/gcgdata/geneseq/geneseq/AA1987.DAT.\*  
9: /SIDSL/gcgdata/geneseq/geneseq/AA1988.DAT.\*  
10: /SIDSL/gcgdata/geneseq/geneseq/AA1989.DAT.\*  
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19: /SIDSL/gcgdata/geneseq/geneseq/AA1998.DAT.\*  
20: /SIDSL/gcgdata/geneseq/geneseq/AA1999.DAT.\*  
21: /SIDSL/gcgdata/geneseq/geneseq/AA2000.DAT.\*  
22: /SIDSL/gcgdata/geneseq/geneseq/AA2001.DAT.\*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

#### SUMMARIES

Result No.	Query Match %	Score	Length	ID	Description
1	4782	100.0	928	AAW88417	Chlamydia pneumoni
2	4782	100.0	928	AAW88417	Chlamydia antigen
3	4774	99.8	949	AAW88417	Chlamydia pneumoni
4	1862	38.9	918	AAW88417	Amino acid sequenc
5	1855	38.8	928	AAW88417	Chlamydia pneumoni
6	1853	38.7	928	AAW88417	Chlamydia pneumoni
7	1836	38.4	918	AAW88417	Chlamydia pneumoni
8	1793	37.5	928	AAW88417	Chlamydia pneumoni
9	1787	37.4	928	AAW88417	Chlamydia antigen
10	1785	37.3	928	AAW88417	Chlamydia pneumoni
11	1763	36.9	930	AAW88417	Chlamydia pneumoni

12	1758.5	36.8	927	20	AAW35054	Chlamydia pneumoni
13	1757	36.7	928	21	AAW90237	Chlamydia antigen
14	1755	36.7	930	20	AAW88424	Chlamydia pneumoni
15	1755	36.7	930	21	AAW90240	Chlamydia antigen
16	1734	36.3	936	21	AAW98842	Chlamydia pneumoni
17	1732	36.2	914	20	AAW88429	Chlamydia pneumoni
18	1705	35.7	925	21	AAW98843	Chlamydia pneumoni
19	1685	35.2	885	21	AAW90238	Mature Chlamydia a
20	1634.5	34.2	945	21	AAW69368	Amino acid sequenc
21	1621.5	33.9	945	21	AAW88428	Chlamydia pneumoni
22	1432.5	30.0	841	21	AAW92818	C. pneumoniae CPN1
23	1429.5	29.9	841	20	AAW88420	Chlamydia pneumoni
24	1348	28.2	922	21	AAW95548	Chlamydia pneumoni
25	1345	28.1	922	20	AAW34597	Chlamydia pneumoni
26	1344	28.1	922	20	AAW88419	Chlamydia pneumoni
27	1286	26.9	643	20	AAW35056	Chlamydia pneumoni
28	1278.5	26.7	973	21	AAW96274	Chlamydia POMP91B
29	1132.5	23.7	597	20	AAW34611	Chlamydia pneumoni
30	1130.5	23.6	671	20	AAW35050	Chlamydia pneumoni
31	1092.5	22.8	1013	20	AAW16737	C. trachomatis B s
32	1090	22.8	1012	20	AAW16735	C. trachomatis LGV
33	1089.5	22.8	1013	20	AAW16738	C. trachomatis F s
34	1080.5	22.6	1006	21	AAW13639	C. trachomatis pmp
35	1069.5	22.4	982	21	AAW13633	C. trachomatis pmp
36	1015.5	21.2	1132	20	AAW35048	Chlamydia pneumoni
37	995	20.8	507	20	AAW34614	Chlamydia pneumoni
38	882	18.4	610	20	AAW88431	Chlamydia pneumoni
39	850	17.8	880	21	AAW13632	C. trachomatis pmp
40	843.5	17.6	494	20	AAW34615	Chlamydia pneumoni
41	842	17.6	866	21	AAW13638	C. trachomatis pmp
42	831.5	17.4	427	20	AAW34613	Chlamydia pneumoni
43	827	17.3	483	20	AAW34609	Chlamydia pneumoni
44	785	16.4	450	20	AAW34617	Chlamydia pneumoni
45	779.5	16.3	530	20	AAW35064	Chlamydia pneumoni

#### ALIGNMENTS

RESULT 1

AAW88417

ID AAW88417 standard; Protein; 928 AA.

AC AAW88417;

DT 26-APR-1999 (first entry)

DE Chlamydia pneumoniae surface exposed protein Omp4.

KW Omp4; outer membrane protein 4; surface exposed protein; antigen; infection; diagnosis; vaccine; atherosclerosis; asthma.

OS Chlamydia pneumoniae.

PN WO9858953-A2.

PD 30-DEC-1998.

PF 19-JUN-1998; 98WO-DK00266.

PR 23-JUN-1997; 97DK-0000744.

PA (BIRK/) BIRKELUND S.

PA (CHRI/) CHRISTIANSEN G.

PI Birkelund S, Christiansen G, Knudsen K, Madsen A;

PI Mygind P;

DR WPI: 1999-105610/09.

DR N-FSD; AAX06816.

XX Species-specific test for identifying mammals infected with Chlamydia pneumoniae - comprises detecting antibodies specific for

outer membrane proteins of *C. pneumoniae* or nucleic acids encoding these proteins

Claim 7; Page 40-42; 115pp; English.

This polypeptide comprises the novel 98.9 kDa surface exposed protein Omp4 of the human respiratory pathogen *Chlamydia pneumoniae*. Its amino acid sequence was deduced from DNA (see AX05816) isolated from a *C. pneumoniae* expression library. The invention provides 12 novel surface exposed proteins, Omp4-Omp15 (see AA08417-28), and nucleic acid sequences encoding them (see AX05816-27). A new species specific test is claimed that is used to identify mammals (including humans) infected with *Chlamydia pneumoniae*. The test comprises detecting antibodies specific for Omp4-Omp15 or detecting nucleic acid fragments encoding these outer membrane proteins, especially by PCR. The proteins are also used in the diagnosis of *C. pneumoniae* infection in mammals. The nucleic acids and proteins can also be used in the immunization of mammals, the nucleic acids being particularly useful as DNA vaccines for effecting *in vivo* expression of antigens. The vaccines may also prevent atherosclerosis and bronchial asthma, which are possibly associated with *C. pneumoniae*.

Sequence 928 AA;

Query Match 100.0%; Score 4782; DB 20; Length 928;  
Best Local Similarity 100.0%; Pred. No. 0;  
Matches 928; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

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QY 1 MKTSIPWLVSSVLAFLCHLQSLANEELLSPDDSFNGNIDSGTTPKTSATTVSLTGDFV 60
DB 1 MKTSIPWLVSSVLAFLCHLQSLANEELLSPDDSFNGNIDSGTTPKTSATTVSLTGDFV 60
QY 61 FYEPGKGTPLSDSCFKQTTDNLTFLNGHSLTFGFDAGTHAGAASTTANKNLTFSGFS 120
DB 61 FYEPGKGTPLSDSCFKQTTDNLTFLNGHSLTFGFDAGTHAGAASTTANKNLTFSGFS 120
QY 121 LLSFDDSSPTVTTCQTLSSAGGVNLENKLVVAGNFSTADGGAIKGASFLITGTSGD 180
DB 121 LLSFDDSSPTVTTCQTLSSAGGVNLENKLVVAGNFSTADGGAIKGASFLITGTSGD 180
QY 181 ALFSNNSSSTKGAATATAGARIANNYVRFSLNSIASTSGGAIIDRGCTSILSNKPLVF 240
DB 181 ALFSNNSSSTKGAATATAGARIANNYVRFSLNSIASTSGGAIIDRGCTSILSNKPLVF 240
QY 241 EGNAKTTGGAICNTKASGPPELLIISNNKTLIFASNVAETSGGAIHAKIALSSGGTFEF 300
DB 241 EGNAKTTGGAICNTKASGPPELLIISNNKTLIFASNVAETSGGAIHAKIALSSGGTFEF 300
QY 301 LRNVSSATPKGGAISTDASGELSLSAETGNITFVRNLTITGSTDTPKRNAINIGSNGK 360
DB 301 LRNVSSATPKGGAISTDASGELSLSAETGNITFVRNLTITGSTDTPKRNAINIGSNGK 360
QY 361 FTELRAAKNHTIFFYDPTITSEGTSSDVLKNNGSAGALNPYQGTILFSGETLTADDELKVA 420
DB 361 FTELRAAKNHTIFFYDPTITSEGTSSDVLKNNGSAGALNPYQGTILFSGETLTADDELKVA 420
QY 421 DNKSSFTQVPSUSGGKLLQKQVLTLESTSFQFAGSLMGDSGTTLTSTAGSITITNLG 480
DB 421 DNKSSFTQVPSUSGGKLLQKQVLTLESTSFQFAGSLMGDSGTTLTSTAGSITITNLG 480
QY 481 INVDSLGLKQPVSLTAKGASNKVTVSGKLNLDIEGNIYESHMFSDHDLPSLLKITVDAD 540
DB 481 INVDSLGLKQPVSLTAKGASNKVTVSGKLNLDIEGNIYESHMFSDHDLPSLLKITVDAD 540
QY 541 VDTNVDISSILIPPAEDPNSEYFGQGWNNWTTDTATNTKEATATWTKTGFVPSPERKS 600
DB 541 VDTNVDISSILIPPAEDPNSEYFGQGWNNWTTDTATNTKEATATWTKTGFVPSPERKS 600
QY 601 ALVCNTLWGVFTDIRSLQQLIVETGATGMEHKQGFVSSWNTNLFHKYGDENKGRFTTSGG 660
DB 601 ALVCNTLWGVFTDIRSLQQLIVETGATGMEHKQGFVSSWNTNLFHKYGDENKGRFTTSGG 660

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QY 661 YVIGGSAHTPKDDLTFEAFCHLFARDKDCFTAHNNSRTYGGTLFFKHSHTLQPNYLRIG 720
DB 661 YVIGGSAHTPKDDLTFEAFCHLFARDKDCFTAHNNSRTYGGTLFFKHSHTLQPNYLRIG 720
QY 721 RAKFSESAIEKFPREIPLALDVQVFSHSDNRMEHTYTSLPESSEGSWSNECIAGGIGIDL 780
DB 721 RAKFSESAIEKFPREIPLALDVQVFSHSDNRMEHTYTSLPESSEGSWSNECIAGGIGIDL 780
QY 781 PFVLSNPHPLFKFTIPQMKVEMVYVNSQSFSSDGRGFSIGRLNLSIPVGAKFVQGD 840
DB 781 PFVLSNPHPLFKFTIPQMKVEMVYVNSQSFSSDGRGFSIGRLNLSIPVGAKFVQGD 840
QY 841 IGSYTYDLSGFEVSDYVRNPGQSTATLVMSPOSWKTRGNNLSRQAEFLRGSNNYVNSN 900
DB 841 IGSYTYDLSGFEVSDYVRNPGQSTATLVMSPOSWKTRGNNLSRQAEFLRGSNNYVNSN 900
QY 901 CELFGHYAMELRGSSRNRYNDVGTGTLRF 928
DB 901 CELFGHYAMELRGSSRNRYNDVGTGTLRF 928
RESULT 2
AAY90236
ID AAY90236 standard; Protein; 928 AA.
XX
AC AAY90236;
XX
DT 29-AUG-2000 (first entry)
XX
DE Chlamydia antigen CPN100634.
XX
KW Chlamydia antigen; diagnosis; infection; community acquired pneumonia;
KW therapy; upper respiratory tract disease; bronchitis; sinusitis;
KW asthmatic bronchitis; adult-onset asthma; acute exacerbations of asthma.
XX
OS Chlamydia pneumoniae.
XX
PN WO200032794-A2.
XX
PD 08-JUN-2000.
XX
PF 01-DEC-1999; 99WO-CA011147.
XX
PR 01-DEC-1998; 98US-0110339.
PR 01-DEC-1998; 98US-0110340.
PR 01-DEC-1998; 98US-0110427.
PR 01-DEC-1998; 98US-0110428.
PR 01-DEC-1998; 98US-0110438.
XX
PA (CONN-) CONNAUGHT LAB LTD.
XX
PI Murdin AD, Oomen RP, Wang J;
XX
DR WPI; 2000-412339/35.
DR N-PSDB; AAA30847, AAA30848.
XX
PT Nucleic acids encoding polypeptide antigens from Chlamydia useful for
PT preventing, diagnosing and treating diseases such as community acquired
PT pneumonia, bronchitis, sinusitis and asthmatic bronchitis, adult-onset
PT asthma -
XX
PS Claim 16; Fig 1; 174pp; English.
XX
CC This sequence is a Chlamydia antigen of the invention, designated
CC CPN100634. The nucleic acids (and their complementary sequences) may be
CC used as diagnostic agents for detecting the presence of nucleic acids
CC encoding Chlamydia antigens in samples according to standard methods,
CC and therefore, for diagnosing Chlamydia infections. For example, they may
CC be used as primers and probes for diagnostic polymerase chain reaction
CC (PCR) assays. Antisense sequences may be used to down regulate
CC expression of the proteins and may be used to treat infections. The
CC nucleic acids may also be used to produce the protein antigens they

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CC encode according to standard recombinant DNA methodologies. The  
CC proteins may then be used as antigens for the production of antibodies  
CC (i.e. as vaccines) for preventing infection by Chlamydia. The  
CC antibodies may also be used as diagnostic reagents for detecting  
CC infections. Chlamydia is a pathogen implicated in the development of  
CC (for example) community acquired pneumonia, upper respiratory tract  
CC disease (especially bronchitis and sinusitis, asthmatic bronchitis,  
CC adult-onset asthma and acute exacerbations of asthma in adults.  
XX  
SQ Sequence 928 AA;

Query Match 100.0%; Score 4782; DB 21; Length 928;  
Best Local Similarity 100.0%; Pred. No. 0;  
Matches 928; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 MKTSPVWLVSSVLAFLSCHLQSLANEELLSPDDSFNGNIDSGTTPPKTSATYSITGDFV 60  
Db 1 mktspwlvssvlfafschlqlaneellspddsfngnidsgttfptktsattysitgdvf 60  
Qy 61 FYEPCKGTPLESDSCFKQTTDNLTLFLNGCHSLTFGFDAGTHAGAAASTTANKNLTFSGFS 120  
Db 61 fyepegktplsdscfkqttndltflngchsltfgidagthagaaasttanknltsfsgfs 120  
Qy 121 LLSFSDSPSTVTGQGTLSAGGVNLENIRKLVVAGNFSTADGGAIKGASFLITGTSGD 180  
Db 121 llsfdspsstvtgqgtlssaggvnlenirkvvagnfstadggaikgasflitgtsgd 180  
Qy 181 ALFNNSSSTKGAIAITAGARIANNNGYVFLSNIASTSGAIDDEGTSILSNKKFLYF 240  
Db 181 alfnnssstkgaiattagariannngyvrflsniaastsgaiddegtsilsnkkflyf 240  
Qy 241 EGNAAKTTGGAICNTKASGSPPELLISNNKTLIFASNVAETSGGAHAKKLLALSSGGTFEF 300  
Db 241 egnaaktgggaicntkasgspellisnnktilfasnvaetsggahakkllalssggftef 300  
Qy 301 LRNVSSATPKGGAISIDASGELSIAETGNITFVRNLTFTTGTGTDTPKRNAINIGSNGK 360  
Db 301 lrnvssatpkggaidsasgelsiaetgnitfvrnltfttgtgtdtpkrnainigsngk 360  
Qy 361 FTELRAAKNHTIFFYDPTTSSTGSSDVLKINNGSAGALNPYOGTILFSGETLTADLKVA 420  
Db 361 ftelraaknhtiffydpitstgssdvlkinngsagalnpyogtillfsgeltadelkva 420  
Qy 421 DNLKSSFTQPSVLSGKLLKQVLTLESTFSQBSAGSLGMDSGTTLSTAGSITINLG 480  
Db 421 dnlkssftqpsvlsqkllkqvltlestsfsqbsagslgmdsgttlstagsititnlg 480  
Qy 481 INVDSLGLKQPSLTAKGASNKVSVSGKLNLDIEGNIYESHMFSDQLFSLKITVDAD 540  
Db 481 invdslglkqpsltakgasnkvsvsgklnldiegniyeshmfshdqlfslkitvdad 540  
Qy 541 VDTNWDISSLIPVPAEDPNSYFGQGNVNWTTDTATNTKEATATWTKGTFVSPERKS 600  
Db 541 vdtndvisslipvpaedpnsyfgqgnvnnwttdtatntkeatatwtkgtfvspers 600  
Qy 601 ALVCNTLWGVFTDIRSLQQLVEICATGMEHKQGFVWSSMTNFKHTGDNKRKPRHSGG 660  
Db 601 alvcntlwgvftdirslqqlveicatgmehkqgfvwssmtnflkhtgdenkrkprhtsgg 660  
Qy 661 YVIGCSAHTPKDDLFTFAFCHLFARDKDCFIAHNSRTYGGTFLFKSHHTLPQNYLRIG 720  
Db 661 yvigssahtpkddlftfafchlfardkcfiahnstrtyggtlffkshhtlqpnylrig 720  
Qy 721 RAKFESAIEKFPRIPLADVOQVSFSDNRMETHYTSLPESGWSNECIAGGIGL 780  
Db 721 rakfesaiekfpreipladvqvshsdnrmethytlpesegswsneciaggigidl 780  
Qy 781 PFVLSNHPLEKFTIPQMKVEMVTVSQNSPFESSDGRGFSIGRLNLNLSIPVGAKFVGD 840  
Db 781 pfvlsnphplekftipqmkvemvvsqnsfessdgrgfsigrllnlslpvgakfvgd 840  
Qy 841 IGDSTYVDLSGFEFFVYVRNPNQSTATIVMSPDSWKIRGGNLSRQAFLLRGSNNVYNSN 900

Db 841 igdstytdlsgefsvvyrnnpnqstativmbspdskwkgngnlrqaflrgsnnyvynsn 900  
Qy 901 CELFGHYAMELRGSSRNYNVDVGKLR 928  
Db 901 celfghyamelrgssrnynvdvgtklrf 928  
RESULT 3  
AAY35060  
ID AAY35060 standard; Protein: 949 AA.  
XX  
AC AAY35060;  
XX  
XX 13-SEP-1999 (first entry)  
XX  
DE Chlamydia pneumoniae cellular envelope protein.  
XX  
DE Respiratory disease; pneumonia; bronchitis; heart disease; sarcoidosis;  
KW sinusitis; purulent otitis media; erythema nodosum; pharyngitis;  
KW vaccine; neutralising epitope.  
XX  
OS Chlamydia pneumoniae.  
XX  
XX WO9927105-A2.  
XX  
XX 03-JUN-1999.  
XX  
XX 20-NOV-1998; 98WO-IB01890.  
XX  
XX 04-NOV-1998; 98US-0107078.  
XX  
XX 21-NOV-1997; 97FR-0014673.  
XX  
XX (GEST ) GENSET.  
XX  
XX Griffais R;  
XX  
XX WPI; 1999-357842/30.  
XX  
XX  
XX Genome sequence of Chlamydia pneumoniae  
XX  
XX Page 947-949; Disclosure; 1912pp; English.  
XX  
XX AAY34584-Y35879 represent the proteins encoded by all the open reading  
XX frames in the complete genome (see AAX91990) of Chlamydia pneumoniae.  
XX C. pneumoniae causes respiratory disease such as pneumonia and  
XX bronchitis and is thought to be a contributing factor in heart  
XX disease, sarcoidosis, sinusitis, purulent otitis media, erythema  
XX nodosum or pharyngitis. The polypeptides encoded by the open reading  
XX frames of the C. pneumoniae genome (see AAY34584-Y35879) can be used in  
XX immunogenic compositions as vaccines. Vectors containing C. pneumoniae  
XX nucleotide sequences can also be used as immunogenic compositions,  
XX especially where the vector directs the expression of a neutralising  
XX epitope of C. pneumoniae.  
XX  
SQ Sequence 949 AA;

Query Match 99.8%; Score 4774; DB 20; Length 949;  
Best Local Similarity 99.9%; Pred. No. 0;  
Matches 927; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

Qy 1 MKTSPVWLVSSVLAFLSCHLQSLANEELLSPDDSFNGNIDSGTTPPKTSATYSITGDFV 60  
Db 22 mktspwlvssvlfafschlqlaneellspddsfngnidsgttfptktsattysitgdvf 81  
Qy 61 FYEPCKGTPLESDSCFKQTTDNLTLFLNGCHSLTFGFDAGTHAGAAASTTANKNLTFSGFS 120  
Db 82 fyepegktplsdscfkqttndltflngchsltfgidagthagaaasttanknltsfsgfs 141  
Qy 121 LLSFSDSPSTVTGQGTLSAGGVNLENIRKLVVAGNFSTADGGAIKGASFLITGTSGD 180  
Db 142 llsfdspsstvtgqgtlssaggvnlenirkvvagnfstadggaikgasflitgtsgd 201

Qy	181	ALFNNSSSTKGGAIATTAGARIANNNTGYVRFLSNIASTSSGGAIIDDEGTSILSNKNFLXF	240
Db	202	alfnnssstkgaiaattagariannntgxvrfisnlastsggaidddegtsilsnknflxf	261
Qy	241	EGNAAKTGGAICTNKASGPELLIISNNKTLIFASNVAETSGAIHAKKALLSSGGTFEF	300
Db	262	egnaaktggaiactnkasgPELLIISNNKTLIFASNVAETSGAIHAKKALLSSGGTFEF	321
Qy	301	LRNVSSATPKGGAISIDASGELSLSAETGNIFVRNTLTGTTGSDTPKRNAINIGSNCK	360
Db	322	lrnnvsatpkggaaisidasgelslsaetgnifvrntlttgstdtpkrrnainigsngk	381
Qy	361	FTELRAAKNHTIFYDPITSEGTSSDVLKINNGSAGALNPYQGTILFSGETLTADELKYA	420
Db	382	fteLraaknhtiffydpitsegtssdvlkinngsagalnpyqgtilfsgetltadelkya	441
Qy	421	DNLKSSFTQPVSLSGGKLLIKGVLTLESTSFSGEASLLIGMDSGTTLSTTAGSITITNLG	480
Db	442	dnLksftqpvsisggkllikgvltlestsfsgeagslIgmDsgttlSttagSittnlG	501
Qy	481	INVDLSLIGKQPVSLTAGASNKIVTSCKLNLIDIEGNIYESHMFSDQLFSLIKITVDAD	540
Db	502	invdslgkqpvsltagasnkivsgklnlidiegniyeshmfsdqflsllkItvdad	561
Qy	541	VDTNVDLSSILIPVPAEDPNSEYGFQGOWNVWNTTDTATNKEATATWTKTGFVPSPERKS	600
Db	562	vdtnvdLssilipvpaedpnseygfqgownvwnttdtatnkeatatwtkgtgfvpSperks	621
Qy	601	ALVCNTLWGVTDIRSLQQLVEIGATGMEHKQGFWSSMTNFLHKTGDBNRKGFRTSGG	660
Db	622	alvcntLwgvtDirslqqlveigatgmeHkgfWssmtnflhktgdbnrkgfRhtsgg	681
Qy	661	YVIGCSAHTPKDDLFTTAPCHLFAARKDCPIANNSTRTYCGTLFFPKHSTLQOPQNYLRIG	720
Db	682	yvIggsahtpkddlfttAfchlfarkdcfiahnstrtycgTlffkhstlqpnYlrig	741
Qy	721	RAKFSESAIEKFPREIPLALDVOVSFHSNDRMETHVTSLPESGWSNCECTAGGIGDL	780
Db	742	rakfsesaiekfpreiPlaldvovsfhsndrmethvtslpesegwsnecTaggIgdL	801
Qy	781	PFLVLSNPHLPKFTFIPQMKVEMYVVSQNSPFSSSDGRGFSIGRLNLNLIPVCAGKFVQGD	840
Db	802	pflvlsnphlpkftfIpQmkvemyvvsqnsPfsssdgrGfsigrlnlnslIpvgakfvqgd	861
Qy	841	IGDSYTYDLGSGFVSDYVRNNPOSTATLVMSPDQSWKIRGNTLSRQAFLLRGSNNVYNSN	900
Db	862	IgdSytydlsgfVsdvyrrnnpqstatlVmspdswkIrgnlsrqafllrgsnnyvynsn	921
Qy	901	CELFPGHYAMELRSSRNNYNDVGTKLRF	928
Db	922	celfghyamelrgssrnnYndvgtklrf	949

## RESULT 4

AA69369

ID AAY69369 standard; Protein; 918 AA.

XX

AC AAY69369;

XX

DT 19-JUN-2000 (first entry)

XX

DE Amino acid sequence of the CPN100395 polypeptide.

XX

KW CPN100395; chlamydia infection; immune response; vaccine.

XX

OS Chlamydia pneumoniae.

[illegible]

PN WO200011183-A2.  
YY

XX  
PD 02-MAPD  
XX  
02-MAR-2000.18-AUG-68  
PF

77 09 NOV 68 TSCC-OMEC 144431

XX	20-AUG-1998;	98US-0097187.
PR	20-AUG-1998;	98US-0097188.
PR	20-AUG-1998;	98US-0097189.
PR	20-AUG-1998;	98US-0097190.
PR	20-AUG-1998;	98US-0097195.
PR	20-AUG-1998;	98US-0097196.
PR	20-AUG-1998;	98US-0097197.
PR	27-AUG-1998;	98US-0097191.
PR	17-AUG-1999;	99US-0376770.
XX		
PA	(CONN-) CONNAUGHT LAB LTD.	
XX		
PI	Murdin AD, Oomen RP;	
XX		
DR	WPI; 2000-224703/19.	
DR	N-PSDB; AAZ61509.	
XX		
PT	Novel antigens and corresponding DNA molecules that can be used to	
PT	prevent, treat and diagnose disease caused by Chlamydia infection in	
PT	mammals, especially humans -	
XX		
PS	Claim 19; Fig 15-E; 201pp; English.	
XX		
CC	AAV69362-69 represent Chlamydia pneumoniae polypeptides. The	
CC	polypeptides are present in the bacterial membrane structure, in the	
CC	external vicinity of the membrane structure, in the inclusion membrane	
CC	structure, in the external vicinity of the inclusion membrane structure	
CC	and in the cytoplasm of the infected cell. The polypeptides may be	
CC	used to prevent, treat and detect the presence of Chlamydia infection	
CC	and/or the presence of Chlamydia in a sample. The polypeptides may	
CC	also be used to induce an immune response in a mammal. The vaccine	
CC	vector comprising the polynucleotides is used to induce an immune	
CC	response in a mammal. Antibodies directed against the polypeptides	
CC	may also be used therapeutically to treat and/or prevent a Chlamydia	
CC	infection.	

Query Match 38.9% Score 1862 DB 21 Length 918

Query Match  
Best Local Similarity  
42.3%; Pred. No. 3.3e-117;  
Score 100%; Pred. No. 3.3e-117;  
Score 100%; Pred. No. 3.3e-117;

Matches 398; Conservative 156; Mismatches 352; Indels 34; Gaps 12;

OV 1 MKTSIPWVLVSSVLAFSCHLOSL---ANEELSPDDSENGNIDSGTTPK-----TSATT 52

[illegible]

53 YSI.TG.DV.FF.FE.PG.KG.TP.L.SD.SCF.KOT.DNI.T.FI.GNG.HSL.TE.GFI.DAG.THAG.AAA.STTANK 112

QY 33 ISLIGDVFFIEFGNGIFLSDSCFRQI IDNLI FLGNHSLIFG IDAGI HAGAFAST IANK II

0" 113 NIT-ESCESEI SEDSSPSTTYTTCOCTI SSACCVNIENIBKI.WAGNFSTADGGATKGS 171

QY I13 NLT-FSGFSLTSDSPSTVTIQQGILTSSAGGVNLENIRKLVVAGNFSTADGGATKAS I 171

170 BY THE COURT OF THE DISTRICT OF COLUMBIA  
171 IN RE: THE ESTATE OF JAMES EARL RAY, JR.  
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QY 232 LSNNKFLYFEGNAAKTTGGAICNTKASGPE--LIISNNKTLIFASNVAETSGGAIHAKK 289

[illegible]

QY 290 LALSSG-GFTEFLRNNVSSATPKGGAISIDASGELSLSAETGNITFVRNTLTTTGSTDTP 348

1000

QY 349 KRNAINIGSNGKFTTELRAAKNHTIFFYDPITSEGTSSDVLKINNGSAGALNPYQGTLFS 408

[illegible]

416 gekiseelkpdnlkftqavalaagalvldkgtvvtantitqvegskvmmagdtte 475  
 469 TTAGSITITNIGINVDLSGLKQPVSLAKAGSNKIVVSGKLNLIDIEGNIYESHMSHQ 528  
 476 asaegvtlglainidsldgtkaikataaskdvalsgpmlvdagynyehhnlsgq 535  
 529 LFSLLKTVADVDVTNVDISSLIPVPAEDPNSEYFGOGWNNVNTTDTATNTKEATATWT 588  
 536 vflieisagtm-ttdltpd---tplntnhygggnwnlvvwddataktaknatltw 591  
 589 KTGFVSPERKSALVCNTLWGVFTDIRSLQQLVEIGATGMEHKQGFVWSSNLFHLKGTG 648  
 592 ktgkypnerqgplvpnlsgsfvdrsiqlmdrstesslssnlnwsgiadflhedqk 651  
 649 ENRKGFRHTSGYVIGGSAHTPKDDLTTFAPCHLPARDKDCFIHNNSTRYVGGTLFKHS 708  
 652 gnqrsyrhsagayl99gfftasenfnafcqifgydkhlvaknhthvyagamsyrh- 710  
 709 HTLQPNQVNLRLGRAKSESATEKFPREIPLADLVQVSFSDNRMETHYTSLPESEGSWS 768  
 711 -----lgesktlakisgnsdplpfvfnarfayghcdnmmttkytpvkgswg 760  
 769 NECIAGGIGLDLPVLNPHPLFTFIPQMKVEMVYVYQNSFFESSDGRGFSIGRLNL 828  
 761 ndafgiecgaipvvasgrtswdthpflnlemyahqndfkengtegrsfqsedlfnl 820  
 829 SIPGAKFVQGDIGDSTYDLSGFVSDVYNNPQSTATLWSPDQWIRGNLSRAFL 888  
 821 avpvglftek--fsdkatydlisayvpdvirndpgcttlmvsgdswstcgtslsrqall 878  
 889 LRGSNNVYVNSNCELFHYAMELRGSSRNYNVDVGTGLRF 928  
 879 vragnhafasnfefvsgfvelrgssrsyaidl9grfgrf 918  
 RESULT 5  
 AAY94327  
 ID AAY94327 standard; Protein; 928 AA.  
 XX  
 AC AAY94327;  
 XX  
 DT 11-AUG-2000 (first entry)  
 XX  
 DE Chlamydia pneumoniae 98kd putative outer membrane protein.  
 XX  
 KW Chlamydia; antigen; vaccine; infection; outer membrane protein.  
 XX  
 OS Chlamydia pneumoniae.  
 XX  
 PN W0200026237-A2.  
 XX  
 PD 11-MAY-2000.  
 XX  
 PF 29-OCT-1999; 99WO-GB03579.  
 XX  
 PR 29-OCT-1998; 98US-0106070.  
 PR 01-MAR-1999; 99US-0122066.  
 PR 27-OCT-1999; 99US-0428122.  
 XX  
 PA (CONN-) CONNAUGHT LAB LTD.  
 XX  
 PI Murdin AD, Oomen RP, Dunn PL;  
 XX  
 DR WPI; 2000-365569/31.  
 DR N-PSDB; AAA27021.  
 XX  
 XX Novel Chlamydia 98 kDa putative outer membrane protein antigen, used  
 PT for vaccination and protection against Chlamydia infection -  
 XX  
 PS Claim 6; Fig 1; 93pp; English.  
 XX  
 CC The present sequence is the 98kDa putative outer membrane protein from

CC Chlamydia pneumoniae. The genomic sequence was amplified using two  
 CC PCR primers. The 5' primer contains a NotI restriction site, a ribosome  
 CC binding site, an initiation codon and a sequence close to the 5' end of  
 CC the 98kDa putative outer membrane protein coding sequence. The 3' primer  
 CC contains the sequence encoding the C-terminal sequence of the putative  
 CC outer membrane protein and a BsrCI restriction site. The stop codon was  
 CC excluded and an additional nucleotide was inserted to obtain an in-frame  
 CC C-terminal fusion with the Histidine tag. The PCR product was cloned  
 CC into a eukaryotic expression vector (pCA-Myc-His) by restricting both  
 CC the vector and the PCR product with NotI and BamHI and performing a  
 CC ligation reaction. This expression vector was injected intramuscularly  
 CC and intranasally into mice, which were subsequently inoculated with  
 CC Chlamydia pneumoniae. The chlamydial lung titers of the immunised mice  
 CC were lower than those of the controls. Thus the 98kDa putative outer  
 CC membrane protein can be used as a vaccine to provide protection against  
 CC Chlamydia infections, especially Chlamydia pneumoniae infections.  
 CC The present polypeptide may also be administered orally to treat  
 CC Chlamydia infection.  
 XX  
 SQ Sequence 928 AA;  
 Query Match 38.8%; Score 1855; DB 21; Length 928;  
 Best Local Similarity 42.7%; Pred. No. 9.8e-117;  
 Matches 405; Conservative 171; Mismatches 331; Indels 42; Gaps 20;  
 QY 1 MKTSIPWLVSSVLAFSCHLOSLANEELLSPDDSFNGNIDSGTTPKTS-----ATTSLT 56  
 DB 1 mkssfpkfvstfaifp--lsmiatetvldssasfdgn-kngnfsvresqedagttylfk 57  
 QY 57 GDVFFYE-PGKGTPLSDSCFKQTTDLNLTFLGNHSLRFGFDAGTHAGAAA-SYTTANKN 114  
 DB 58 gnvlenipgtgtaitkscfntkgdiftngnslfqtvdagtvagaavssvvdkst 117  
 QY 115 TFGSFLSLSDSPSTVTTTQGGTSL-SAGVNLNLRKLVVAGNFSDAGGAIKAGASFL 173  
 DB 118 tfigfsslfiaspgssittkgavscstgslstknvllsknfstdnggaltaktls 177  
 QY 174 LTGTSGDALFSNNSSTKGGAIATAGAIANNVYVYRFLSNIASTSGGATDDEGTSTLS 233  
 DB 178 ltgtmsalfsentsskkggalqtsdaltitngdngvsgfsdntssdgaalfteasvrls 237  
 QY 234 NNKFLYF-----EGNAAKTT---GGAICNTKASGPSPPLIISNNKTLIFASNVAETSGGA 284  
 DB 238 nnakvsfidnkvtgasssttdgmsgggaicayktstdtkvtitngmlfnsntttagga 297  
 QY 285 IHAKKALSSGGFTFLRNNSVSSAT-PKGAISIDASGELSLSAETGNITVFRNTLTGTTG 343  
 DB 298 iyykklelasggltlfrsnvnggtapkggaialedsgelesadsadgdivflgtvtst- 356  
 QY 344 STDTPKRNAINIGSNGKFTELRAAKNHTIFYDPIIT--SEGTSSDVLKINNGSAGALNPY 401  
 DB 357 -tpgtnrssidlgtssaktalrsaaagraiyfydpttgsstvtvdlkvnetpadsalqy 415  
 QY 402 QGTILFSGETLTADLKVADNLKSSFTOPVSLSGKLLLOKGVLTLESTFSQEAAGSLGM 461  
 DB 416 tgnliifgeklseteaaadsknltsklqpcvlsqgtslkhgvtlqtafqgadsrlem 475  
 QY 462 DSGTTLSTTAGSITITNLGINVDLSGLKQPVSLAKAGSNKIVVSGKLNLIDIEGNIYES 521  
 DB 476 dvgttle-padtstinnlvinnissidgakkakietkatsknltslsgttilldptgtyfen 534  
 QY 522 HMFSDQLFSLKITYDADVTNVDISSLIPVPAEDPNSEYFGOGWNNVNTTDTATNT 580  
 DB 535 hslrnpqsydillelkasgtvts---tavtpdpmekfhygggtgwpivwgtgastt- 589  
 QY 581 KEATATTKTGTVPSPERKSALVCNTLWGVFTDIRSLQQLVEIGATGMEHKQGFVWSSMT 640  
 DB 590 --afcnvktktgypnperigslvpuslwnafidsslhymetanegilqgdrafcwsgis 647  
 QY 641 NFLHKTGDNKRKGRFHTSGYVIGGSAHTPKDDLTTFAPCHLPARDKDCFIHNNSTRY 700  
 DB 648 nffhkdstktrgrfhrhsaggvnygnihntcsdkilsaafcqlfgrdrdyfvakngqvyg 707





XX 30-DEC-1998. 115pp; English.

XX Birkelund S, Christiansen G, Knudsen K, Madsen A;

XX (BIRK/) BIRKELUND S.

XX (CHRI/) CHRISTIANSEN G.

XX Birkelund S, Christiansen G, Knudsen K, Madsen A;

XX Mygind P;

XX WPI; 1999-105610/09.

XX N-PSDB; AAX06822.

XX Species-specific test for identifying mammals infected with

XX Chlamydia pneumoniae - comprises detecting antibodies specific for

XX outer membrane proteins of C. pneumoniae or nucleic acids encoding

XX these proteins

XX Claim 7; Page 60-62; 115pp; English.

XX This polypeptide comprises the novel 98.4 kDa surface exposed

XX protein Omp10 of the human respiratory pathogen Chlamydia

XX pneumoniae. Its amino acid sequence was deduced from DNA (see

XX AAX06822) isolated from a C. pneumoniae expression library. The

XX invention provides 12 novel surface exposed proteins, Omp4-Omp15

XX (see AAX068417-28), and nucleic acid sequences encoding them (see

XX AAX06816-27). A new species specific test is claimed that is used

XX to identify mammals (including humans) infected with Chlamydia

XX pneumoniae. The test comprises detecting antibodies specific for

XX Omp4-Omp15 or detecting nucleic acid fragments encoding these outer

XX membrane proteins, especially by PCR. The proteins are also used

XX in the diagnosis of C. pneumoniae infection in mammals. The

XX nucleic acids and proteins can also be used in the immunization of

XX mammals, the nucleic acids being particularly useful as DNA

XX vaccines for effecting in vivo expression of antigens. The

XX vaccines may also prevent atherosclerosis and bronchial asthma,

XX which are possibly associated with C. pneumoniae.

XX Sequence 928 AA;

Query Match 37.5%; Score 1793; DB 20; Length 928;

Best Local Similarity 42.6%; Pred. No. 1.5e-112;

Matches 403; Conservative 153; Mismatches 353; Indels 38; Gaps 17;

QY 1 MKTISIPVLVSVLAFSCHLQ-----SLANEELSPDDSFNGNDTSGTFPP-----KTSAT 51

Db 1 mksllhwfvisalalplsinfafaavveinlgtntsfsg---pgtytppadttnadgt 57

QY 52 TYSLTGDFVFEYEPKGPPLSDSCFKOTDNLTLFLNGHSLTFGFDAGTHAGAAASTTAN 111

Db 58 iynltgdsitnagsptalcascfketgnlsfgqyqfllqndaganc-tfttaan 116

QY 112 KNTFGSGLSLSDSPSTFTVTRTQGTLLSAGGVNLENTRKLVVAGNFSTADGGAIKGAS 171

Db 117 kllsfsgfysls1--igttnattgtgaikstgacslqnsycyfgqnfndngalqgss 174

QY 172 FLITGTSGDALFNNSSSTFKGGAIAATAGARIANNVGYVRFSLNIASSTSGAIDDEGTSI 231

Db 175 lsls1nplntfaknkatkqgalyatggitlnntinsasfsentaainggalteassf 233

QY 232 LSNKKFLYFEGN---AAKTGGAI-CNTKASGSPELIISNKKTLIFASNVASTSGGAIHA 287

Db 234 isnkaisfinnsvtatsatggalytssapkpvtlsdngelnfignltatcggaityt 293

QY 288 KKLALSSGGFTFLRN-VSSATPKGAISIDASGELSLSAETGNITFVRNTLTT-TGST 345

Db 294 dnivlssggptlfknnsaidtaaplgaaiaadsgslsalggdittfegntvkvagss 353

QY 346 DTPKRNAINIG-SNGFTELRAAKNHTIFFYDITSEGTS--SDVLKINNGSAGALNPYQ 402

Db 354 qtttrnsinigttnakivqlrasgntiyfydptitnhtaalsdainlpgdiagnpayq 413

QY 403 GTILFSGEYLTADBLKVDNLKSSFTQPVSLSGKLLQLQGVTLSTSFSEAGSLIGMD 462

Db 414 gtivfsgeliseaeaaadnlkstiqgptlagqglsksgvtivakstsqspgslmd 473

QY 463 SGTTLSTAGSITITNLGINVDSLGLKQPVSLTAKGASNKVIVSGKLNLDIDEGNIYESH 522

Db 474 agttletadg-itinnlvinvdskkatlkatqasqvtvtslsgslvdpsgnyedv 532

QY 523 MFSHDQLFSLKITVDADVDNVDISLIPVPAEDPNSSEYFGQGVNNTTDTATNKE 582

Db 533 swnpqgvfscitit--adpanihitdlaadpleknpihwgyqgnwalswqdetatska 590

QY 583 ATATWTGTFVPSPERKSALVCNTLWGVFTDIRSLOOLVEIGATGMEHKQGVFWSMTNF 642

Db 591 atitwktgtnpnperrgtlvanlwgsfvdvrsldqglvatkrqsgetrqgicelnsf 650

QY 643 LHKTDENRKGRHTSGGYVIGGSAHTPKDDLTFAFCHLFARDKDCFTAHHNSRTYGGT 702

Db 651 fhkdstkinkgfrhisagyyvgattlasdnllitaafclfgkdrdhfinknrasyaas 710

QY 703 LFFKHSHTIQPNYLRLGRAKFSESAIEKPPREIPLALDQVQSFSDNRMETHYSLPE 762

Db 711 lhlqhiatlsspllyr--lpgses-----eqpvlfaqisylskntumktytqap 761

QY 763 SEGWSNECIAGIGLDLPVLSNPHLPKTFIPQMKVEMVYVSONSFESSD-GRGFS 821

Db 762 gessvndydcalelsslphtalsheglfhayfpfklveasyinhqsfkerntclvrsfd 821

QY 822 IGRLLNLSIPVGAKFVQGDITSYTYDLSGFFVSDYVRNPNQSTATLVMSPDSSWKIRGN 881

Db 822 sgdlinvspigltferfarnasyeatviyvayvyrknpdctallinntskttgt 881

QY 882 LSRQAFLLGSGNNVYVNSNCELFHGYAMELGRSGRNNVNDVGPKLRF 928

Db 882 lsrqagigragifayfatspnlvsnlsmelgrsrsynadlgkkgf 928

RESULT 9

AAY90239

ID AAY90239 standard; Protein; 928 AA.

XX

AC AAY90239;

DT 29-AUG-2000 (first entry)

XX Chlamydia antigen CPN100638.

DE Chlamydia pneumoniae.

KW Chlamydia antigen; diagnosis; infection; community acquired pneumonia;

KW therapy; upper respiratory tract disease; bronchitis; sinusitis;

XX asthmatic bronchitis; adult-onset asthma; acute exacerbations of asthma.

OS Chlamydia pneumoniae.

XX WO2000032794-A2.

PN 08-JUN-2000.

XX 01-DEC-1999; 99WO-CA01147.

XX 01-DEC-1998; 98US-0110339.

PR 01-DEC-1998; 98US-0110340.

PR 01-DEC-1998; 98US-0110427.

PR 01-DEC-1998; 98US-0110428.

PR 01-DEC-1998; 98US-0110438.

XX (CONN-) CONNAUGHT LAB LTD.

PA Murdin AD, Oomen RP, Wang J;

XX WPI; 2000-412339/35.

DR	N-PSDB; AAA30851, AAA30852.	
XX	Nucleic acids encoding polypeptide antigens from Chlamydia useful for	
PT	preventing, diagnosing and treating diseases such as community acquired	
PT	pneumonia, bronchitis, sinusitis and asthmatic bronchitis, adult-onset	
PT	asthma -	
XX	Claim 16; Fig 5; 174pp; English.	
PS		
XX	This sequence is a Chlamydia antigen of the invention, designated	
CC	CPI100638. The nucleic acids (and their complementary sequences) may be	
CC	used as diagnostic agents for detecting the presence of nucleic acids	
CC	encoding Chlamydia antigens in samples according to standard methods,	
CC	and therefore, for diagnosing Chlamydia infections. For example, they may	
CC	be used as primers and probes for diagnostic polymerase chain reaction	
CC	(PCR) assays. Antisense sequences may be used to down regulate	
CC	expression of the proteins and may be used to treat infections. The	
CC	nucleic acids may also be used to produce the protein antigens they	
CC	encode according to standard recombinant DNA methodologies. The	
CC	proteins may then be used as antigens for the production of antibodies	
CC	(i.e. as vaccines) for preventing infection by Chlamydia. The	
CC	antibodies may also be used as diagnostic reagents for detecting	
CC	infections. Chlamydia is a pathogen implicated in the development of	
CC	(for example) community acquired pneumonia, upper respiratory tract	
CC	disease (especially bronchitis and sinusitis), asthmatic bronchitis,	
CC	adult-onset asthma and acute exacerbations of asthma in adults.	
XX		
SQ	Sequence 928 AA;	
	Query Match 37.4%; Score 1787; DB 21; Length 928;	
	Best Local Similarity 42.7%; Pred. No. 3.8e-112;	
	Matches 404; Conservative 151; Mismatches 354; Indels 38; Gaps 17;	
Qy	1 MKTSPVWLVSVLAFSCHLQ----SLANELSLSPDPSFMNGTDSGTFTP-----KTSAT 51	
Db	1 mkslhwllisslslalplslnfafaavveinlqptnsfsg---pgtytpaqtnadgt 57	
Qy	52 TYSITGDVFFYEKGPPLSDSCFKQTTDLNLTFLNGHSLTFFGIDAGTAGAASNTAN 111	
Db	58 lnyltgdvstnagsptalcascfketnlsfgghyqfllgnldaganc-tftncaan 116	
Qy	112 KNTFSGLSLSDSPSTVTVTGQGTLSAGGVNLENIRKLVVAGNFADGGAIRKAS 171	
Db	117 kllsfsgfysls--lqtnatgtgaikstgacisgnsyfcyfgqnfndnggalgss 174	
Qy	172 FLITGSGDALFSNNSSTGGAIATAGARIANNVTGYRFLSNIASSTGGAIDDETSI 231	
Db	175 isls-lnpnlitfaknkatqggalystggitntlnlsasfsentaanngalyteassf 233	
Qy	232 LSNNKFLYEEGN---AAKTTGGAI-CNTKASGSPPELLISNNKTLIFASNVAETSGGAIHA 287	
Db	234 issnkalsfnnsvtatsatcgalycestsapkpvltisdngeinfignitaitsggalyt 293	
Qy	288 KKLALSSGGTTEFLRNN-VSSATPKGAISIDASGELSLSAETGNITFVRNTLT-TGST 345	
Db	294 dnlvlesggpplfknnsgydaaplgaiadsgslsalgdditfegntvvkgasss 353	
Qy	346 DTPKRNAINTG-SNGKTEFLRAKNHPTFFYDPTTSBCTS--SDVLKINNGSAGALNPYQ 402	
Db	354 qtttrnsinlgntnakivqraasgntiifydptittsitaalsadalnlnqpdlagnpayq 413	
Qy	403 GTILFSGTTLTADBLKVADNLKVSFTOPVSLSGKLLKQGVLESTFSQAGSLGMD 462	
Db	414 gtivfsgklsaeaaeadnktiqgplklagqklsksgvtlvaksfsgspgstllmd 473	
Qy	463 SGTTLSTAGTITNIGVDSLGLKOPVSLTAKGASNKVIVSGKLNLDIDIEGNIYESH 522	
Db	474 agttletadg-itlnnlvlnvdsiketkkyllkatqasqvtvitsgslsvdpqsnvyedv 532	
Qy	523 MFSDHQQLFSLKLTVDADVTNVDISSLIPVPAEDPNSEYCFQSQWNNVTTDTATATKE 582	
Db	533 swnpqvfscitlt--adddpanihitlaadpleknpihwgyqgnwalswqedatkska 590	
Qy	583 ATATWTKTGFVPSPERKALVCNTLWCVFTDIRSLQOLVEIGATGMEHKOGFWVSSMTNF 642	
Db	591 atltwtktgynpnperrgtlvanltlwgsvfdvrsiqqlvatkrqsqetrgiwcgisnlf 650	
Qy	643 LHTGTDNRKGRFRTSGYVIGGSAHTPKDOLFTFAFCHLFARDKDCFIHNNNSRTYGGT 702	
Db	651 fhkdstkinkgrfhisagvyvgatttlasdnlltaacqfkgkdrdhfinknrasayaas 710	
Qy	703 LFFKHSHTLQPNVLRGKAFKESAIKFPREIPALDVOVSFSDNRNETHYTSLSPE 762	
Db	711 lhlqlhatlsspllry--lpgsses-----eqpvlfdagisviyaktmkttytdqpk 761	
Qy	763 SEGWSNECTAGGIGLDPFLVSNPHLEKTFIPQMVEMVYVSONSFSSSSD-GRGFS 821	
Db	762 geswyndgcalelsslphltalshelghfayfpfikveasylnqdsfkernttlvrsfd 821	
Qy	822 IGRLLNLSPVGAKFVQGDIGDSYTYDLSGFFVSDVYNNPNQSTATLVMSPDSWKIRGNN 881	
Db	822 sgdlinvsvpigitferfsrnerasyeatviyvadvyrkopdcttallnontskwtigtg 881	
Qy	882 LSRQAFLLRSNNVYNSNCELPGHYAMELGRSSRNNVNDVGTKLRF 928	
Db	882 lsrqagigragifyafspnlvtsnlsmeirgssrsynadlpgkqkf 928	
RESULT	10	
AAW88418		
ID	AAW88418 standard; Protein; 928 AA.	
XX	AAW88418;	
XX	26-APR-1999 (first entry)	
DE	Chlamydia pneumoniae surface exposed protein Omp5.	
KW	Omp5; outer membrane protein 5; surface exposed protein; antigen;	
KW	infection; diagnosis; vaccine; atherosclerosis; asthma.	
OS	Chlamydia pneumoniae.	
PN	WO9858953-A2.	
PD	30-DEC-1998.	
PF	19-JUN-1998; 98WO-DK00266.	
PR	23-JUN-1997; 97DK-0000744.	
PA	(BIRK/) BIRKELUND S.	
PA	(CHRI/) CHRISTIANSEN G.	
PI	Birkelund S, Christiansen G, Knudsen K, Madsen A;	
PI	Mygind P;	
DR	WPI: 1999-105610/09.	
DR	N-PSDB; AAX06817.	
XX	Species-specific test for identifying mammals infected with	
PT	Chlamydia pneumoniae - comprises detecting antibodies specific for	
PT	outer membrane proteins of C. pneumoniae or nucleic acids encoding	
PT	these proteins	
PS	Claim 7; Page 43-45; 115pp; English.	
CC	This polypeptide comprises the novel 97.2 kDa surface exposed	
CC	protein Omp5 of the human respiratory pathogen Chlamydia	
CC	pneumoniae. Its amino acid sequence was deduced from DNA (see	
CC	AAX06817) isolated from a C. pneumoniae expression library. The	
CC	invention provides 12-novel surface exposed proteins, Omp4-Omp15	
CC	(see AAW88417-28), and nucleic acid sequences encoding them (see	
CC	AAX06816-27). A new species specific test is claimed that is used	
CC	to identify mammals (including humans) infected with Chlamydia	

Qy	815	SDGRFSTIGRLNLSIPWAKAFVCGDITDGSYYDLSGFFVSDYVRNNPQSTATLVMS	PDS	874
Db	815	tegrsfadnslnfnslplgvkfeksfcdnsdytltsyvpdlrlnpkctetalsvsgas	874	
Qy	875	WKIRGGLNSRQAFLLRGSSNNYVNSNCELFCHYAMELRGSSRNNYVDVGPKLRF	928	
Db	875	wetvannlarqalvragshyafspmfievlgqfvfevrgssrlynnvdlgkfkqf	928	

RESULT 11  
AAY35052

AA  
AC  
XX  
DT

AAAY35052;  
13-SEP-1999 (first entry)

XX	Chlamydia pneumoniae surface exposed polypeptide.
DE	
XX	
KW	Respiratory disease; pneumonia; bronchitis; heart disease; sarcoidosis;
KW	sinusitis; purulent otitis media; erythema nodosum; pharyngitis;
KW	vaccine; neutralising epitope.
XX	
OS	Chlamydia pneumoniae.
XX	
PN	WO9927105-A2.
XX	
PD	03-JUN-1999.
XX	
PF	20-NOV-1998; 98WO-IB01890.
XX	
PR	04-NOV-1998; 98US-0107078.
PR	21-NOV-1997; 97FR-0014673.
XX	
PA	(GEST ) GENSET.
XX	
FI	Graffais R;
XX	
DR	WPI; 1999-357842/30.
XX	
PT	Genome sequence of Chlamydia pneumoniae
PS	Page 940-942; Disclosure; 1912pp; English.
XX	
CC	AA934584-Y35879 represent the proteins encoded by all the open reading
CC	frames in the complete genome (see AAX9190) of Chlamydia pneumoniae.
CC	C. pneumoniae causes respiratory disease such as pneumonia and
CC	bronchitis and is thought to be a contributing factor in heart
CC	disease, sarcoidosis, sinusitis, purulent otitis media, erythema
CC	nodosum or pharyngitis. The polypeptides encoded by the open reading
CC	frames of the C. pneumoniae genome (see AA934584-Y35879) can be used in
CC	immunogenic compositions as vaccines. Vectors containing C. pneumoniae
CC	nucleotide sequences can also be used as immunogenic compositions,
CC	especially where the vector directs the expression of a neutralising
CC	epitope of C. pneumoniae.
XX	
SQ	Sequence 930 AA;
Query Match            36.9%    Score 1763; DB 20; Length 930;	
Best Local Similarity 41.7%; Pred. No. 1.6e-110;	
Matches 394; Conservative 165; Mismatches 355; Indels 30; Gaps	
QY	1 MKTGIPLVSSVLAFSCHLQSLAN---EELLSPDDSFNGNIDSGTFPTKTA----TTY 53   :   :   :   :   :   :   :   :   :   :   :   :   :   :   :   :   :   :   :     :   :   :   :   :   :   :   :   :   :   :   :   :   :   :   :   :   :   :
Db	1 mkplhkllsstltvtpi-lllsiatygadaslpsdtsfdg-aggstftpkstadangtny 58
QY	54 SLTGDFEFYEPCGKTPLSDSCFKOTDNLTLGLNGHSLTFCGFIDACTHAGAASTANKN 113   :   :   :   :   :   :   :   :   :   :   :   :   :   :   :   :   :   :   :
Db	59 vlsnvyindagkgatlgcgcfttddltfkgysfnvtvdagsnagaattackda 118
QY	114 LTFSGFLLSFDSPSVTTVTGGCTLSAGGVLENIRKLVVAGNFSTA---DGAIKGA 170

14:

```

QY      1 MKTSPWLVVSSVLAFSCHLQSLAN---EELLSPDPSFNGINDSGFTTPKTSa---TTY 53
Db      1 mkplhklisistlvtpi-llslatyadaslsptdsfdg-aggsftfpkstadangtny 58
QY      54 SLTGDFEYFPGKGTPLSDSCFQTTDNLTLGLNGHSLTFGFDACHTAGAASFTANKN 113
Db      59 vls9nvvyindagkgtalgcgcfcttgdtfgkygysfntvda9snagaasatctadra 118
QY      114 LTFSGFLLSFDSPSTVVTVGQTLSAGGVNLENIRKLVVAGNFSTA---DGGAIKA 170

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Db 119 lftgfnlsfiaapgttvasgktslssagalnltndgtllsfquvsneannngaitak 178  
 QY 171 SFLTGTSGDALFNSNSSKGGGAIAITAGARIANNYGFVFLSNIASTSGAIDDECTS 230  
 Db 179 tllsngntstftcnsaklglggaiaaasigntqglvfmnknkgetggaglfgeass 238  
 QY 231 ILSNKFYFEGNAKTT--GGAICNTKASGSPELIISNNKTLIFASNVAETSGGAIIHA 287  
 Db 239 sitqnsllffsgntdaagkggaicyckgetptllisngktslfenssvtgggaica 298  
 QY 288 KKLALSGGTFTEFLRNNV-SATPKGGAISIDAGSELSLSAETGNITFVRNLTFTTGSTD 346  
 Db 299 hglidaagptlfnmrcgntaagkggaialadsgislsanggdilflgntlst-sap 357  
 QY 347 TPKRNAIGNSNGKFTFLRAAKNHTIFFYDPTITSEGN--SSDLKINNGSAGALNPYOGTI 405  
 Db 358 tstrnalygssakltlnraagqgslyfoplasntgtsadvtlmgpdsnpldygnti 417  
 QY 406 LFGSETLTADDELKVADNLKSFSTQPVLSLGGKLLQLQGVLTLESTFSQAGSLILGMDSGT 465  
 Db 418 vfgskisadeaadaadnftsilklplalasgtialkgnvelvngftqegstllmcpgt 477  
 QY 466 TLSTAGSITITNLGINVDSLGLKQPVSLTAKGASNVIVSGKLNLDIDIEGNIYESHMS 525  
 Db 478 klkadteaistklivdlsalegnkvsietaganktititlplvfgdssgnfyeshiti- 536  
 QY 526 HDQLFSL-LKITVDADVTNVDISLIPVPAEDPNSEYFGQGNVNWTTDTATNTKEAT 584  
 Db 537 -nqeftqplvvftaataasdiydalltspvtqpehygyghweatw-adtst-aksqt 593  
 QY 585 ATWTKTGFVSPERKSLVCLNTLWGVFTDRSLQOLVEIGATMEHKOGFWVSSMTNLFH 644  
 Db 594 mtwvttygnpperraaavpdsllwasftdrtllqimtsqansiyyqgrglwasgtanffh 653  
 QY 645 KTDGDKRGRHRTSGGVIGGSAHTPKDDLTFTFAFCHLFARDKCFIAHNNRPTYGTLF 704  
 Db 654 kdksgtnqatrhkgyyivvggsaedfsenfsvafclfgkdkdlfiventshnylasly 713  
 QY 705 FKHSHTLQPNYLRGLAKRSESIEAFPRPEIPLALDVQVFSFSDNRMETHYLSLESE 764  
 Db 714 lqhraflyg-----glmpsfsgsitdmlkdplllnaqlsystkndmdtrlytsypeaq 766  
 QY 765 GWSNECIAGIGLIDLFLVLSNPHLEKFTIPQMKVEMVYVVSQSFPESSDGRGFSIGR 824  
 Db 767 gswtnnsgalelgsalylpkeapffggyfplkfayvyrqnfkesgaearafddgd 826  
 QY 825 LLNLSPVGAKFVQGDIGDSTYTDLGFVSDVYRNNPQSTATILVSPDSWKIRGGNLSR 884  
 Db 827 lvnccspvgirlekisedeknnfeislaiyigdvyrknprartslmvgaswtslcknlar 886  
 QY 885 QAFLLRGSNNVNVNCSNLCFHVAMELRGSSRNNVDPVGTKLRF 928  
 Db 887 qafilasaghtlshphvelsgaayelrgsahlynvdcglrysf 930

## RESULT 12

AAV35054

ID AAV35054 standard; Protein; 927 AA.

XX AAV35054;

AC AAV35054;

XX 13-SEP-1999 (first entry)

XX Chlamydia pneumoniae surface exposed polypeptide.

XX Respiratory disease; pneumonia; bronchitis; heart disease; sarcoidosis;  
 KW sinusitis; purulent otitis media; erythema nodosum; pharyngitis;  
 KW vaccine; neutralising epitope.

XX Chlamydia pneumoniae.  
 OS Chlamydia pneumoniae.

XX WO9927105-A2.

PN

XX

PD 03-JUN-1999.  
 XX 20-NOV-1998; 98WO-IB01890.  
 XX 04-NOV-1998; 98US-0107078.  
 PR 21-NOV-1997; 97FR-0014673.  
 XX (GEST ) GENSET.  
 XX Griffais R;  
 PI WPI; 1999-357842/30.  
 DR  
 XX  
 PT Genome sequence of Chlamydia pneumoniae  
 PS Page 942-944; Disclosure; 1912pp; English.  
 XX  
 CC AAY34584-Y35879 represent the proteins encoded by all the open reading  
 CC frames in the complete genome (see AAY91990) of Chlamydia pneumoniae.  
 CC C. pneumoniae causes respiratory disease such as pneumonia and  
 CC bronchitis and is thought to be a contributing factor in heart  
 CC disease, sarcoidosis, sinusitis, purulent otitis media, erythema  
 CC nodosum or pharyngitis. The polypeptides encoded by the open reading  
 CC frames of the C. pneumoniae genome (see AAY34584-Y35879) can be used in  
 CC immunogenic compositions as vaccines. Vectors containing C. pneumoniae  
 CC nucleotide sequences can also be used as immunogenic compositions,  
 CC especially where the vector directs the expression of a neutralising  
 CC epitope of C. pneumoniae.  
 XX  
 SQ Sequence 927 AA;  
 Query Match 36.8%; Score 1758.5; DB 20; Length 927;  
 Best Local Similarity 42.0%; Pred. No. 3.1e-110;  
 Matches 398; Conservative 153; Mismatches 357; Indels 39; Gaps 17;  
 QY 1 MKTSIPWLVSSVLAFSCHLQ---SLANEELLSPDGSFNGNIDSGTFTP-----KTSAT 51  
 Db 1 mkkslhflisslalslslslnfsaavveinlqptnsfsg---pgtytpaqtnadgt 57  
 QY 52 TYSITGDVFFPEKGPPLSDSCFKQTTDNLTFFLNGHSLTFFGIDAGTHAGAAASTAN 111  
 Db 58 iynltgvsitnagstaltascfkettgnlsfghyqfllqnlidaganc-tftntaan 116  
 QY 112 KNTLFSGSLSLSPDSSPTVTTCGGTLSSAGGVNLENIRKLVVAGNFSTADGGAIGAS 171  
 Db 117 klisfsfyslsl--lqtnattgtgaikstgacisgyscysfqnfsndngalggss 174  
 QY 172 FLTLTSGDALFNSNSSSTRKGAIATAGARIANNYGFVFLSNIASTSGAIDDECTSI 231  
 Db 175 isls-lpnltfaknkatkqgalystggtitntlnsasfsentaannngalyteassf 233  
 QY 232 LSNKKFLYFEGN---AAKTTGGAI-CNTKASGSPELIISNNKTLIFASNVAETSGGAIIHA 287  
 Db 234 issnkaisfnnsvtatsatggalycsstapkpvltsldngeinfignitaitsggalyt 293  
 QY 288 KKLALSGGTFTEFLRNNV-VSSATPKGGAISIDAGSELSLSAETGNITFVRNLTFT-TGST 345  
 Db 294 dnlvlssggptlfnksaidtaaplgaiaialadsgislsalggdlfegntvvkgasss 353  
 QY 346 DTPKRNAINIG-SNGKFTFLRAAKNHTIFFYDPTITSECTS--SDVLKINNGSAGALNPYQ 402  
 Db 354 qtttrnsingntnakivqlrasgnttiyfypittsalsdnlngpdlagnpayq 413  
 QY 403 GTILFSGETITADELKVADNLKSFSTQPVLSLGGKLLQLQGVLTLESTFSQAGSLILGMD 462  
 Db 414 gtlvifsekiaseaadaadnltstiqqtltagqlslksgvtlvaksfsgspgstllmd 473  
 QY 463 SGITLSTAGSITITNLGINVDSLGLKQPVSLTAKGASNVIVSGKLNLDIDIEGNIYESH 522  
 Db 474 agttletadgslsl--icsqcrflkrdqektlkatqasqvtlsgslslvdpnsgnyved 531  
 QY 523 MFSHDQLFSLKLTVDADVTNVDISLIPVPAEDPNSEYFGQGNVNWTTDTATNTKE 582

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Db 532 swnpqvfscitit--addpanihitdaadpleknpnhwgygnwalswgedatksa 589
QY 583 ATATWTKTGFPVSPERKSALVCHNTLGVFTDIRSLQOLVEIGATGMEHKQGFVWSMTNF 642
Db 590 atltwtktgynperrgtivantlwgsvfvdvrsigqlvatkvrgsqetrgiwcgeisnf 649
QY 643 LHKTGDNKRKGFRTSGGYVIGGSAUTPKDDLFTFAFCHLFARDKDCFTAHNNRSRTYGGT 702
Db 650 fhkdstkingfhisagyyvgattlasdnlitaafclfgkdrdhfinknrasayaas 709
QY 703 LFFKHSHTLOPNYLGRGAFSESIAEKPPREIPALDVQVFSHSDNRMEPHYTSLPE 762
Db 710 lhlqhatlssplly--lpgses-----eqvlfdaqsiyyskntmkytqap 760
QY 763 SEGWSNECTAGIGIDLPLVSNPHLPKTFIPQMKVEMVYVQNSFPRESSD-CRGFS 821
Db 761 gesswyndgcalsaslphtalsheglfhayfpfikveasyihqdsfernttlvrfd 820
QY 822 IGRLLNLSIPVGAKFVQGDIGDSTYVDLSCFFVYSDVYRNNPQSTATLVMSPDWSKIRGGN 881
Db 821 sgdlinvspiglitferfsrnerasyeatviyvadyrknpcdcttallinntskttgn 880
QY 882 LSRQAFLLRGSNNYVNSNCELFCHYAMELRGSRNNYVNDVGPKLRF 928
Db 881 lsrqagigragifayfspnlvtsnlsmeirgsrsynadlgkfgf 927

RESULT 13
AA902037
ID AA902037 standard; Protein; 928 AA.
XX
AC AA902037;
DT
DE Chlamydia antigen CPN100635.
KW Chlamydia antigen; diagnosis; infection; community acquired pneumonia;
KW therapy; upper respiratory tract disease; bronchitis; sinusitis;
KW asthmatic bronchitis; adult-onset asthma; acute exacerbations of asthma.
XX
OS Chlamydia pneumoniae.
XX
FH Key
FT Peptide 1..43
FT /note= "signal peptide"
FT Protein 44..928
FT /note= "mature CPN100635"
XX
PN WO200032794-A2.
XX
PD 08-JUN-2000.
XX
PF 01-DEC-1999; 99WO-CA01147.
XX
PR 01-DEC-1998; 98US-0110339.
PR 01-DEC-1998; 98US-0110340.
PR 01-DEC-1998; 98US-0110427.
PR 01-DEC-1998; 98US-0110428.
PR 01-DEC-1998; 98US-0110438.
XX
PA (CONN-) CONNAUGHT LAB LTD.
XX
PI Murdin AD, Oomen RP, Wang J;
XX
DR WPI; 2000-412339/35.
DR N-PSDB; AAA30849, AAA30850.
XX
PT Nucleic acids encoding polypeptide antigens from Chlamydia useful for
PT preventing, diagnosing and treating diseases such as community acquired
PT pneumonia, bronchitis, sinusitis and asthmatic bronchitis, adult-onset
PT asthma -
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XX
PS Claim 16; Fig 3; 174pp; English.
CC
CC This sequence is a Chlamydia antigen of the invention, designated
CC CPN100635. The nucleic acids (and their complementary sequences) may be
CC used as diagnostic agents for detecting the presence of nucleic acids
CC encoding Chlamydia antigens in samples according to standard methods,
CC and therefore, for diagnosing Chlamydia infections. For example, they may
CC be used as primers and probes for diagnostic polymerase chain reaction
CC (PCR) assays. Antisense sequences may be used to down regulate
CC expression of the proteins and may be used to treat infections. The
CC nucleic acids may also be used to produce the protein antigens they
CC encode according to standard recombinant DNA methodologies. The
CC proteins may then be used as antigens for the production of antibodies
CC (i.e. as vaccines) for preventing infection by Chlamydia. The
CC antibodies may also be used as diagnostic reagents for detecting
CC infections. Chlamydia is a pathogen implicated in the development of
CC (for example) community acquired pneumonia, upper respiratory tract
CC disease (especially bronchitis and sinusitis, asthmatic bronchitis,
CC adult-onset asthma and acute exacerbations of asthma in adults.
XX
SQ Sequence 928 AA;
Query Match 36.7%; Score 1757; DB 21; Length 928;
Best Local Similarity 39.9%; Pred. No. 4e-110;
Matches 381; Conservative 174; Mismatches 347; Indels 52; Gaps 18;
QY 1 MKTSPVWLVSVLA--FSCHLQSLANEELLSPDDSFNGNIDSGTTPKTSAT--TYSLT 56
Db 1 mksqfswlvlsatlacltscstvfafaenaigpsdfsgtntgtypkntttdytlit 60
QY 57 GGVFFYEPGKGPLSDSCFKQTTDNLTLFLNGHSLTFGFDAGTHAGAAAATANKNLFF 116
Db 61 gditlqldsaaltkqcfdsdttessfagkyslfnlkssae-gaalsvttdknlsl 119
QY 117 SGFSLLSFDSPSTVTVT--GQGLSSAGVNLNTRKLVAGNFTAGGAIKAGSFL 174
Db 120 tgfssitflaapssvittpsgkavkcggldtfdngtlfkqdyceenggaistknlsl 179
QY 175 TGTSGDALFSNNSSST--KGAIAATAGARTANNYGVYRFLSNIASTGGATDDGTSI 231
Db 180 knstgsisfegnksatgkkgalcatgtvdtntnncaptlfnnniaaaggaglnstcgn 239
QY 232 LSNKPLYPEGNAAKTT--GGAICNTRKASPELISNNKTLIFASNVAETSGGAHAK 288
Db 240 itgntslvfensvtatagngal-----sgdadvtsignqsvtfsngqavangaiyak 294
QY 289 KIALSS--GGTFEFLNNVSSATP-KGGAISIDASGELSLSAETGNITFVRNLTFTTGST 345
Db 295 kitlasgggggnpfsnnivggttagnggaisilaagecslfseagdhynghaivat-lp 353
QY 346 DTPKRNAINIGSNGKFTELRAAKNHTIFFYDPTTSE--GTSSDVLKINNGSAGALNPYOG 403
Db 354 qttkrsnidigstgkdhelraisghsiffydpitantaadstdtlnlnkadagnstdysg 413
QY 404 TILFSGETLTADBLKVADNLKSFOTOPVSLSGKLLKQGVLETSFSQEAGSLGMD 463
Db 414 sivfgeklisedeakvadnltstkqpvltagnlvkrgvltldtkgftqtagssvimda 473
QY 464 GTTLSTTAGSITITNLGINVDLSGLKQPVSLTAKGASNKVIVSGKLNLDIEGNIYESHM 523
Db 474 gtlkasteevltlgisipvslgeqkvviaasaasknvalsgpilllindngnayenh 533
QY 524 FSHDQLFSLLLKITVDADVTNVDISSLIPVPAEDPNSEYGFQOGOWNVNTTDTAT--NTK 581
Db 534 lgtqdfsvqlsa-lgtatttdvpa---vptvatpthyggtgwtvddtascpkck 589
QY 582 EATATWTKTGFPVSPERKSALVCHNTLGVFTDIRSLQOLVEIGATGMEHKQGFVWSMTNF 641
Db 590 tatlawtntgylnpergqplvpnsllwgsfdisqiaigviersaltlcsdrfwaagvan 649
QY 642 FLHKTGDNKRKGFRTSGGYVIGGSAHTPKDDLFTFAFCHLFARDKDCFIANNNSRTYGG 701
```



Db 887 qafilasagshltlshpvelsgeaayelrgsahlynvdcglyrsf 930

## RESULT 15

AA90240

ID AAY90240 standard; Protein; 930 AA.

AC AAY90240;

XX 29-AUG-2000 (first entry)

XX Chlamydia antigen CPN100639.

XX Chlamydia antigen; diagnosis: infection; community acquired pneumonia;

XX therapy; upper respiratory tract disease; bronchitis; sinusitis;

XX asthmatic bronchitis; adult-onset asthma; acute exacerbations of asthma.

XX Chlamydia pneumoniae.

OS WO200032794-A2.

XX 08-JUN-2000.

XX 01-DEC-1999; 99WO-CA01147.

XX 01-DEC-1998; 98US-0110339.

XX 01-DEC-1998; 98US-0110340.

XX 01-DEC-1998; 98US-0110427.

XX 01-DEC-1998; 98US-0110428.

XX 01-DEC-1998; 98US-0110438.

XX (CONN-) CONNAUGHT LAB LTD.

XX Murdin AD, Oomen RP, Wang J;

XX WPI; 2000-412339/35.

XX N-PSDB; AAA30853, AAA30854.

XX Nucleic acids encoding polypeptide antigens from Chlamydia useful for

XX preventing, diagnosing and treating diseases such as community acquired

XX pneumonia, bronchitis, sinusitis and asthmatic bronchitis, adult-onset

XX asthma -

XX Claim 16; Fig 7; 174pp; English.

XX This sequence is a Chlamydia antigen of the invention, designated

XX CPN100639. The nucleic acids (and their complementary sequences) may be

XX used as diagnostic agents for detecting the presence of nucleic acids

XX encoding Chlamydia antigens in samples according to standard methods,

XX and therefore, for diagnosing Chlamydia infections. For example, they may

XX be used as primers and probes for diagnostic polymerase chain reaction

XX (PCR) assays. Antisense sequences may be used to down regulate

XX expression of the proteins and may be used to treat infections. The

XX nucleic acids may also be used to produce the protein antigens they

XX encode according to standard recombinant DNA methodologies. The

XX proteins may then be used as antigens for the production of antibodies

XX (i.e. as vaccines) for preventing infection by Chlamydia. The

XX antibodies may also be used as diagnostic reagents for detecting

XX infections. Chlamydia is a pathogen implicated in the development of

XX (for example) community acquired pneumonia, upper respiratory tract

XX disease (especially bronchitis and sinusitis, asthmatic bronchitis,

XX adult-onset asthma and acute exacerbations of asthma in adults.

XX Sequence 930 AA;

Query Match 36.7%; Score 1755; DB 21; Length 930;

Best Local Similarity 41.6%; Pred. No. 5.4e-110;

Matches 393; Conservative 165; Mismatches 356; Indels 30; Gaps 14;

QY 1 MKTSPVWLVSSVLAESCHLOSAN---EELSPDDSFNGNIDSGTFTPKTSA---TTY 53

DB 1 mkiphkllisltvtpti-llsiatygdasisptdsfdg-aggatftpkstadangtny 58

QY 54 SLTGDFVFFEPCKGTPLSDSCFKQTTDLNLTFLGNGHSLTFGFDAGTHAGAAATANKN 113  
 DB 59 visgnvinyadagkgaltgcttetgdtftgkygsfnftvdagdnagaaatcadka 118  
 QY 114 LTFSGFSLLSFDSPSTVTVTGQTLSSAGGVNLENIRKLVVAGNFSTA--DGGAIKGA 170  
 DB 119 liftgfnlsfiaapgttvaskstlssagalnldngtilfsgnvnneannngaittk 178  
 QY 171 SFLLTGSGDALFSNNSSSTKGGATATTAGARIANNWGYVRFSLNSTASTSGGAIDEGTS 230  
 DB 179 tllsgntssllftsnsakklgalyssaaaisgntgqlvfmnnkgetggaglfseas 238  
 QY 231 ILSNNKFLYFEGNAKTT--GGAICNTKASGSPELIISNNKTLIFASNVAETSGGAIHA 287  
 DB 239 slatqussllfsntdaagkgalycektgetptlltsignksltfaensvtqvggailca 298  
 QY 288 KKLALSSGGTFEFLRNV-SSATPKGGAISIDASGELSLSAETGNITFYRNTITTTGSTD 346  
 DB 299 hglldisaagptlfsnnrcgntaagkggaiaiadsgslsianqgdditlgtltst-sap 357  
 QY 347 TPKRNAINISNGKFTFELRAKNHIFFDPTTSEGT-SSDVLKINNGSAGALNPPQGTI 405  
 DB 358 tstrnailygssakltlnraacgqslfydydasnttgasdvltinqpdsnspldysgti 417  
 QY 406 LFSGETLTADLKVADNLKSSFTQPVSLSGGKLLQKGVTLSTESTSFSQBSAGSLGMDSGT 465  
 DB 418 vifgeklisadeakaadnftslkqplalasgtlakgnvelvngftqtegtllmqpt 477  
 QY 466 TLSTTAGSTITNLGINVDLSGLKQPVSLTAKGASNKVIVSGKLNLDIEGNIYESHMS 525  
 DB 478 kikadteaalsltklvldlsalegnksvsietagantitltplvfqdsngfyeshli- 536  
 QY 526 HDQLFSL-LKIIVDADVDFTNVDISSLIPIPAEDPNSEYFGQGMVNVNWTDTATNKEAT 584  
 DB 537 -nqatqplvvftaataasdiydaltltsptvpephygyqghweatw-adtst-aksqt 593  
 QY 585 AWTWTGTFVPSPERKALVCNTLWGVFTDIRSLQQLVEIGATGMEHKQGFVWSSMTNFLH 644  
 DB 594 mtwtvgynpnerrasvvpdsilwasftdirtlqimtsqansiyyqgrglwasgtanfh 653  
 QY 645 KYGDENRKGFRHTSGGYVIGGSAHTPKDDLFTFAFCHLFARDKCFIAHNNRSTYGGTILF 704  
 DB 654 kdksgtnqafhrkhsygyivggaaedfsenifsvafqclfgkdkdlfiventshnylasy 713  
 QY 705 FKHSHTLOPQNYLRLGRKFSESAIEKPPREIPLALDVOVSFSDSNRMETHVTSLSPESE 764  
 DB 714 lqhraflg-----glpmpsfgsitdmldkpllnaqlsystkndmdtrtysypeaq 766  
 QY 765 GWSNNECIAAGIGLDLDPFVLSNPHPLFKTFIPQMKVEMVYVVSQNSFFSSSDGRGFSIGR 824  
 DB 767 gwttnnsgalelggslalylpeapffqyfpflkfqavysqqnfkesgaeaaraiddgd 826  
 QY 825 LNLSTIPVGAQFVQGDIGSYDYDLSGFFVSDYVRNNPOSTATLVMSPDSPKIRGNLSR 884  
 DB 827 lvnscipvlrliekisedeknnfetslaylgdvyrknprtslmsvsgaswtslcknlr 886  
 QY 885 QAFLLRGSNNYVNSNCELFHYAMELRGSSRNYYNVVDVGTKLRF 928  
 DB 887 qafilasagshltlshpvelsgeaayelrgsahlynvdcglyrsf 930

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